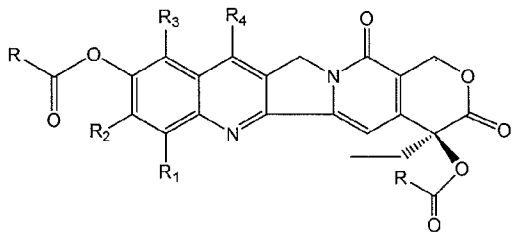
AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

Claims 1-54. (Canceled)

55. (Currently Amended) A di-ester compound having the following structure:



wherein

R_1, R_2, R_3, and R_4, which can be the same or different, are hydrogen, halogen, C_1–C_{20} alkyl, C_1–C_8 alkoxyl, C_4-C_{20} aryl or C_1-C_{20} silyl,

R, which can be the same or different, is C_2–C_{30} alkyl, C_2 –C_{22} alkenyl, C_4-C_{30} aryl, $(CH_2)_nOR_5$, $(CH_2)_nSR_5$, $(CH_2)_nNR_5R_6$ or $(CH_2)_nCOR_7$,

R_5 and R_6, which can be the same or different, are C_1–C_8 alkyl or C_2–C_6 alkenyl,

R_7 is hydroxy, C_1–C_{20} alkyl, C_1–C_6 alkenyl, C_1-C_6 alkoxy, C_4-C_{20} aryl, or NR_8R_9,

R_8 and R_9, which can be the same or different, are C_1-C_6 alkyl,

and n is an integer of 1 to 8,

or a pharmaceutically acceptable salt thereof.

56. (Currently Amended) A di-ester compound of claim 55[[,]] wherein each R can be the same or different and is C_2–C_{20} alkyl, C_2-C_6 alkenyl or C_4-C_{20} aryl.

57. (Previously Presented) A pharmaceutical composition comprising an effective amount of the di-ester compound of claim 55 and a pharmaceutically acceptable carrier or diluent.

58. (Previously Presented) A pharmaceutical composition comprising an effective amount of the di-ester compound of claim 56 and a pharmaceutically acceptable carrier or diluent.

59. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2, R_3, ~~and~~ R_4 is H, and R is C_2–C_{30} alkyl.

60. (Currently Amended) The di-ester compound of claim 56, wherein each of R_1, R_2, R_3, ~~and~~ R_4 is H, and R is C_2–C_{20} alkyl.

61. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2, R_3, ~~and~~ R_4 is H, and R is C_2-C_{22} alkenyl.

62. (Previously Presented) The di-ester compound of claim 56, wherein each of R_1, R_2, R_3, and R_4 is H, and R is C_2-C_6 alkenyl.

63. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2, R_3 ~~and~~ R_4 is H, and R is $(CH_2)_nOR_5$, R_5 is C_1–C_6 alkyl or C_2–C_6 alkenyl, and n is 1 or 2.

64. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2, R_3 and R_4 is H, and R is $(CH_2)_nSR_5$, ~~R_5 is C_1–C_6 alkyl, C_2–C_6 alkenyl, or C_4-C_{10} aryl,~~ R_5 is C_1-C_6 alkyl or C_2-C_6 alkenyl and n is 1 or 2.

65. (Currently Amended) The di-ester compound of claim 55 , wherein each of R_1, R_2, R_3 and R_4 is H, ~~and~~ R is $(CH_2)_nNR_5R_6$, R_5 and R_6 are independently C_1–C_6 alkyl or C_2–C_6 alkenyl, and n is 1 or 2.

66. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2, R_3 and R_4 is H, ~~and~~ R is $(CH_2)_nCOR_7R_7$ is hydroxy, C_1–C_6 alkyl, C_2–C_6 alkenyl or C_4-C_{10} aryl, and n is 2 to 4.

67. (Previously Presented) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, and R is C_2–C_{30} alkyl.

68. (Previously Presented) The di-ester compound of claim 56, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, and R is C_2–C_{20} alkyl.

69. (Previously Presented) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, and R is C_2–C_{22} alkenyl.

70. (Previously Presented) The di-ester compound of claim 56, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, and R is C_2–C_6 alkenyl.

71. (Previously Presented) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, and R is C_4-C_{30} aryl.

72. (Previously Presented) The di-ester compound of claim 56, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, and R is C_4-C_{20} aryl.

73. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, ~~and~~ R is $(CH_2)_nOR_5$, R_5 is C_1–C_6 alkyl or C_2–C_6 alkenyl, and n is 1 or 2.

74. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, and R is $(CH_2)_nSR_5$, R_5 is C_1-C_6 alkyl a C_2-C_6 alkenyl ~~R_5 is C_1–C_6 alkyl, C_2–C_6 alkenyl, or C_4-C_{10} aryl,~~ and n is 1 or 2.

75. (Currently Amended) The di-ester compound of claim 55 or a salt thereof, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, and R is $(CH_2)_nNR_5R_6$, R_5 and R_6 are independently[[,]] C_1–C_6 alkyl or C_2–C_6 alkenyl, and n is 1 or 2.

76. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is CH_2CH_3, ~~and~~ R is $(CH_2)_nCOR_7$, R_7 is hydroxy, C_1–C_6 alkyl, C_2–C_6 alkenyl or C_4-C_{10} aryl, and n is 2 to 4.

77. (Previously Presented) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, and R is C_2–C_{30} alkyl.

78. (Previously Presented) The di-ester compound of claim 56, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, and R is C_2–C_{20} alkyl.

79. (Previously Presented) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, and R is C_2–C_{22} alkenyl.

80. (Previously Presented) The di-ester compound of claim 56, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, and R is C_2–C_6 alkenyl.

81. (Previously Presented) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, and R is C_4-C_{30} aryl.

82. (Previously Presented) The di-ester compound of claim 56, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, and R is C_4-C_{20} aryl.

83. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, [[~~and~~]] R is $(CH_2)_nOR_5$, R_5 is C_1–C_6 alkyl or C_2–C_6 alkenyl, and n is 1 or 2.

84. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, and R is $(CH_2)_nSR_5$, R_5 is C_1-C_6 alkyl or C_2-C_6 alkenyl ~~R_5 is C_1–C_6 alkyl, C_2–C_6 alkenyl or C_4-C_{10} aryl,~~ and n is 1 or 2.

85. (Currently Amended) The di-ester compound of claim 55 or a salt thereof, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, [[~~and~~]] R is $(CH_2)_nNR_5R_6$, R_5 and R_6 are independently, C_1–C_6 alkyl or C_2–C_6 alkenyl, and n is 1 or 2.

86. (Currently Amended) The di-ester compound of claim 55, wherein each of R_1, R_2 and R_3 is H, R_4 is $Si(CH_3)_2C(CH_3)_3$, ~~and~~ R is $(CH_2)_nCOR_7$, R_7 is hydroxy, C_1–C_6 alkyl, C_2–C_6 alkenyl or C_4-C_{10} aryl, and n is 2 to 4.

87. (Previously Presented) The di-ester compound of claim 55, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2, R_3 and R_4 is H, and R is C_2–C_{30} alkyl.

88. (Previously Presented) The di-ester compound of claim 56, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2, R_3 and R_4 is H, and R is C_2–C_{20} alkyl.

89. (Previously Presented) The di-ester compound of claim 55, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2 , R_3 and R_4 is H, and R is C_2 –C_{22} alkenyl.

90. (Previously Presented) The di-ester compound of claim 56, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2 , R_3 and R_4 is H, and R is C_2–C_6 alkenyl.

91. (Previously Presented) The di-ester compound of claim 55, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2, R_3 and R_4 is H, and R is C_4-C_{30} aryl.

92. (Previously Presented) The di-ester compound of claim 56, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2, R_3 and R_4 is H, and R is C_4-C_{20} aryl.

93. (Currently Amended) The di-ester compound of claim 55, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2, R_3 and R_4 is H,[~~and~~ R is $(CH_2)_nOR_5$, R_5 is C_1–C_6 alkyl or C_2–C_6 alkenyl, and n is 1 or 2.

94. (Currently Amended) The di-ester compound of claim 55, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2, R_3 and R_4 is H, and R is $(CH_2)_nSR_5$, R_5 is C_1-C_6 alkyl or C_2-C_6 alkenyl ~~R_5 is C_1–C_6 alkyl, C_2–C_6 alkenyl or C_4-C_{10} aryl,~~ and n is 1 or 2.

95. (Currently Amended) The di-ester compound of claim 55, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2, R_3 and R_4 is H, [[~~and~~]] R is $(CH_2)_nNR_5R_6$, R_5 and R_6 are independently, C_1–C_6 C_1–C_6 alkyl or C_2–C_6 alkenyl, and n is 1 or 2.

96. (Currently Amended) The di-ester compound of claim 55, wherein R_1 is $CH_2N(CH_3)_2$, each of R_2, R_3 [[~~and~~]] R_4 is H, and R is $(CH_2)_nCOR_7$, R_7 is hydroxy, C_1–C_6 alkyl, C_2–C_6 alkenyl or C_4-C_{10} aryl, and n is 2 to 4.

97. (Previously Presented) A method to inhibit the enzyme topoisomerase I in an animal in need thereof comprising administering to the animal an effective amount of a composition comprising at least one di-ester compound of claim 55.

98. (Previously Presented) A method to inhibit the enzyme topoisomerase I in an animal in need thereof comprising administering to the animal an effective amount of a composition comprising at least one di-ester compound of claim 56.

99. (Previously Presented) A method to treat cancer in a patient comprising administering a composition comprising at least one di-ester compound of claim 55 to said patient in an amount effective to treat said cancer.

100. (Previously Presented) A method to treat cancer in a patient comprising administering a composition comprising at least one di-ester compound of claim 56 to said patient in an amount to treat said cancer.

101. (Previously Presented) The method of claim 99, wherein said cancer is lung, breast, colon, prostate, melanoma, pancreas, stomach, liver, brain, kidney, uterus, cervix, ovaries, urinary tract, gastrointestinal, or leukemia.

102. (Previously Presented) The method of claim 100, wherein said cancer is lung, breast, colon, prostate, melanoma, pancreas, stomach, liver, brain, kidney, uterus, cervix, ovaries, urinary tract, gastrointestinal, or leukemia.

103. (Previously Presented) The method of claim 99, wherein said cancer is solid tumor or blood borne tumor.

104. (Previously Presented) The method of claim 100, wherein said cancer is solid tumor or blood borne tumor.

105. (Previously Presented) The method of claim 99, wherein said composition is administered orally, parenterally, intramuscularly, transdermally or by an airborne delivery system.

106. (Previously Presented) The method of claim 100, wherein said composition is administered orally, parenterally, intramuscularly, transdermally or by an airborne delivery system.

107. (Previously Presented) The method of claim 99, wherein said composition is a nanoparticle containing said at least one di-ester compound.

108. (Previously Presented) The method of claim 100, wherein said composition is a nanoparticle containing said at least one di-ester compound.

109. (New) A method to treat breast cancer in a patient comprising administering a composition comprising at least one di-ester compound of claim 55 to said patient in an amount effective to treat said cancer.

110. (New) A method to treat breast cancer in a patient comprising administering a composition comprising at least one di-ester compound of claim 56 to said patient in an amount to treat said cancer.

This listing of the claims replaces all prior listings of the claims.